

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	MM Docket No. 99-25
Creation of a Low)	
Power Radio Service)	RM-9242
)	RM-9208

To: The Commission

REPLY-COMMENTS
of
J. Rodger Skinner, Jr.
Author of RM-9242

J. Rodger Skinner, Jr. is the author of the Petition for Rulemaking RM-9242 in this proceeding and pursuant to the *Notice of Proposed Rulemaking (ANPRM)*, FCC 99-6 (released February 3, 1999), hereby submits these Reply-Comments in the above-captioned rule making proceeding regarding the proposal to create a new low power radio service, Low Power FM (LPFM). My many years of broadcasting experience and credentials were filed in earlier comments in this proceeding and will not be repeated here.

1. Reply To Comments of NAB

It appears that the National Association of Broadcasters (ANAB) has put forth a tremendous effort in its attempt to keep Low Power FM (ALPFM) from being created by the FCC. However, their voluminous 535 page filing falls short of presenting any *real reasons* for not creating the LPFM service. Their AVolume One merely repeats the same worn out arguments they presented in their comments on my petition (RM-9242) and I will not waste my time nor the Commission's time in responding to them again.

AVolume Two, dealing with their receiver study, is an expert example of how to manipulate the numbers to attempt to support a pre-determined goal, in this case, an attempt to

show that creating a LPFM service would create interference. For example, a 10 dB Afudge factor≡ for the NAB-sponsored receiver study was built in by claiming that the FCC=s method of predicting interference, which the NAB and the broadcast industry as a whole has supported for many years, is now, all of a sudden, suspect and Ainappropriate≡. In an attempt to weaken the received (desired) signal by 10 dB, to try to make it easier to show interference from the undesired LPFM signal, they refer only to a land mobile document¹, which has no bearing on this matter. Quoting from their report², AThe above field strength values are at the FCC standard antenna height of 9 meters (30 feet) that is used to determine predicted coverage. This height is generally inappropriate, and almost always incorrect for car radios.≡ Their attempt to show interference where none would exist, by creating this 10 dB Afudge factor≡, as described below, is further borne out by a statement contained in the report³ of the Carl T. Jones Corporation, which states, while discussing the possibility of 2nd adjacent channel interference, AAs was the case for 3rd adjacent channel interference, a **substantial increase is observed in the D/U ratio required to produce interference** (emphasis added) in the median receiver with increasing desired signal strength.≡ Thus by reducing the desired signal strength by 10 dB, as done with a

¹Roger Carey, FCC Report R-6406, ATechnical Factors Affecting the Assignment of Facilities in the DPLMRS≡ used 9 dB.

²NAB comments in MM Docket No. 99-25, Volume Two, Exhibit A page-4, by Moffet, Larson & Johnson.

³/ NAB comment in MM Docket No. 99-25, Volume Two, Exhibit B page 28, by Carl T. Jones Corporation.

A fudge factor as described above, the end result would be less signal required from the undesired (LPFM) to show interference to the desired station.

While the NAB supported The FCC method of predicting coverage and interference, accepted and used by the broadcast industry and NAB member stations for many years, it appears contradictory that this method is now called inappropriate as the NAB contends in their comments in this proceeding. Current FCC rules state, The F(50,50) curves in Figure 1 of § 73.333 are to be used in conjunction with the proposed effective radiated power and antenna height above average terrain, as calculated pursuant to § 73.313(c), (d)(2) and (d)(3), using data for as many radials as necessary, to determine the location of the desired (service) field strength. I suggest that the NAB can't have it both ways. The FCC must reject the tainted receiver study included in their comments in this proceeding. It would appear that the NAB's stated position of being against the creation of a LPFM service was defined as the conclusion to be reached by any receiver study conducted. Clearly, any area of possible interference would be in the immediate vicinity of the LPFM antenna site and would be an area smaller than the blanketing area surrounding full-power FM stations antenna sites, presently allowed by the FCC. Thus, the interference issue is a non-issue. I contend that the NAB has pursued this issue since it knows that the FCC will not protect their member stations from any competition presented by the new LPFM stations. I have heard that they have instructed their members not to bring up the AC-word (competition), which is the real basis for their objections, since they know the FCC is not interested in squashing competition but rather in promoting it. I would hope that the addition of LPFM stations nationwide might spur the full-power stations to work harder to give their audience what they want, since if they don't, a LPFM station might take some audience away from them. This type of competition benefits the listening public by providing better programming which is more responsive to their needs and desires.

2. Reply to Comments of CEMA

The receiver study⁴ commissioned by the Consumer Electronics Manufacturers

Association (ACEMA≡), conducted in conjunction with National Public Radio and the Corporation of Public Broadcasting indicates that existing FCC levels of protection are inadequate. Citing from their conclusions in Section IV of their report, ACEMA does not oppose the creation of a new low power FM service. However, as described above, CEMA=s laboratory tests have identified situations where, rather than relaxing interference protection standards, **greater interference protection measures are needed** (emphasis added) to ensure and maintain quality FM reception.≡ What CEMA seems to be saying here is that they wish they could erase the FM band of signals and start all over again with Agreater interference protection measures≡ that would allow IBOC to work. Indeed, they attempt to make a case for even 4th-adjacent channel interference protection.

Their conclusion that Agreater interference protection measures are needed≡ is in opposition to the fact that thousands of full-power FM radio stations operate and have operated for years without interference. Their study does seem to point to the fact that the proposed IBOC digital systems require too much bandwidth to exist in the present FM band environment. From the evidence presented in this proceeding and from articles written in various trade publications, it is questionable whether any IBOC system will prevail as the system for delivering digital audio radio to the public. It appears that a separate band system like Eureka-147 will be needed to create a terrestrial digital radio service in America, as is already being accomplished in many other countries including our neighbor Canada. The bottom line is this - - **the creation of a LPFM service must not be held hostage by a digital system of broadcasting (IBOC) that is far from being perfected and quite questionable as to whether it may ever solve all the problems presently inherent in all the IBOC systems under testing**. My suggestion would be to scrap the work on IBOC and move the digital channels to an entirely different band which would allow tremendous savings of bandwidth by having one digital signal comprised of many Astations≡ (audio sources) with all stations in each market having the same efficient coverage area of the market. This idea, of course, is frowned upon by those broadcasters who now enjoy coverage which is superior to their competition in their market. I believe the public interest outweighs any need for the FCC to try to create a digital broadcasting system that preserves one

station=s coverage superiority over another.

3. Reply to FCC Receiver Study

I agree with the findings of the FCC conducted receiver study⁵ that creation of LPFM stations , as proposed in MM Docket 99-25, would not cause significant interference to existing full-power FM stations. I would hope that the FCC would not allow the IBOC interests to hold the creation of LPFM hostage to the unperfected IBOC systems currently under testing. Those systems should be robust enough to incorporate the existence of LPFM stations on second and third adjacent channels or digital broadcasting should be developed on an entirely separate band. Indeed, one of the IBOC systems under testing uses a double-sideband system and seems to have built in protection from interference to either the upper or lower sideband since the signal can still be received if either sideband is received unimpaired.

4. Reply to Comments of Lucent Technologies, Inc.

Of the IBOC systems under test, the Lucent Technologies IBOC system seems to be the most robust and able to tolerate a significant level of signals on adjacent channels without degraded digital reception, according to their comments⁶ in this proceeding. According to their comments, Lucent Technologies does not claim that LPFM and digital broadcasting, using their system, cannot coexist without interference. In their report they state, AWhile Lucent has studied the existing analog FM environment for purposes of designing its digital IBOC system, it has been outside the scope of its work to analyze the potential for LPFM stations to interfere with reception of other stations for consumers continuing to use today=s typical analog receivers. Lucent defers judgement to Commission technical engineering experts on the extent and probability of interference.≡

5. Reply to Comments of the Society of Broadcast Engineers

The Society of Broadcast Engineers (ASBE≡), a fine organization, of which this commenter is a member, filed comments in this proceeding attempting to limit their comments to those of a technical nature. In their section I, paragraph 2, they state, AHowever, with all due respect to Chairman Kennard, he is not an engineer. SBE suggests the he should himself await input from the engineering community outside the Commission before he sits down with his fellow Commissioners to vote.≡ First of all, Chairman Kennard has at his service within the Commission some of the finest engineers available to advise him on technical issues and thus does not need to be an engineer himself. Nobody has said the Commissioners would attempt to vote on this proceeding until all comments and reply-comments have been filed and analyzed. Indeed, the Commission has extended the deadlines for filing comments and reply-comments in this proceeding several times in order that all parties have a chance to be heard. **With the technical expertise available within the SBE, it is interesting to note that nowhere in their comments do they present any evidence that LPFM, as proposed by the Commission, will cause interference.** They cite concerns about adherence to existing FCC rules regarding Ablanketing contours≡. Indeed, the Commission has made it clear that class LP-1000 (1000 watt ERP) LPFM stations will have to abide by the vast majority of rules that apply to full-power FM stations. The requirement to put a city-grade (70 dBu) contour over the entire city of license should be waived due to the ERP and antenna height limits imposed on LPFM stations. Otherwise, I am in agreement that the vast majority of Part-73 rules should apply to class LP-1000 LPFM stations. Regarding the FCC=s ability to monitor adherence to their rules, I would suspect that the full-power FM stations in a market would quickly bring to the Commission=s attention any rule violations being committed by a LPFM station.

What Part-73 rules should apply to LP-100 (100 watt ERP) stations? I would suggest that any rules that protect the public from harmful RF radiation, such as those outlined in OET Bulletin No. 65, should apply to all LPFM stations. I would suspect some sort of compliance with existing or modified Ablanketing area≡ rules would also be reasonable. Due to the lower powers involved, this should not present insurmountable problems. If filters fail to cure a reception problem, then perhaps the LPFM operator should be required to repair or replace, at their

discretion, any radio receiver that is unable to operate due to blanketing interference within the 115 mV/m blanketing contour of the LPFM station, within one year of beginning operations.

SBE's concerns about overcrowding in the bands designed for Remote Pickup (RPU) and Studio-Transmitter Links (STL) have some merit, more so with RPU than STL since existing stations would already have and be using their STL frequency. This problem would exist primarily in large urban areas and quite possibly the FCC may wish to look into adding some other frequencies for RPU and STL use if LPFM licensing presents any problems there. I think Part-74 RPU and STL frequencies should be available to both LP-1000 and LP-100 class stations, since in many cases the studio(s) will not be located at the transmitter site. While some LPFM stations may attempt to operate out of residential areas, I expect most will follow the traditional model for broadcasting of studios in one location and the transmitter site at another.

SBE states that it feels that the LPFM issue must not be settled prior to whatever actions stem from the expected final report on in-band-on-channel (IBOC) by the National Radio Standards Committee (NRSC). While there is a current deadline of December 15, 1999 for the three digital IBOC proponents to file their reports with NRSC, it may be years before a final system, if any IBOC system, is perfected and chosen as a standard, if any standard is chosen at all. Indeed, in this commenters opinion, based on what I have read to date on the subject, it may very well end up that the United States adopts a system like the Eureka 147 digital system on an entirely different band. I believe the Commission will have enough data filed in this proceeding to determine how LPFM can be implemented without jeopardizing the digital transition in radio broadcasting, be it IBOC, Eureka 147 or some other system.

SBE talks about Apirates≡ operating LPFM stations and their desire and ability to abide by the rules. Indeed, the Apirate≡ problem should all but disappear and anyone left who decides to not abide by the rules will be quickly weeded out by the additional eyes and ears of the new LPFM operators in addition to the thousands of existing FM stations. The Apirate≡ problem should become quite controllable in the future. Some, who jumped the gun ahead of this proceeding and were broadcasting without benefit of a license, will make some fine licensed broadcasters. I have talked to some of these individuals who ceased their Apirate≡ broadcasts

once they saw the FCC was beginning to look at the creation of a legal LPFM service. It was for these folks that I requested a limited amnesty in my petition for rulemaking (RM-9242). By ceasing their Apirate≡ broadcasts and participating in this rulemaking procedure, they have demonstrated the requisite responsibility necessary to become a Commission licensee. I have never condoned illegal broadcasting nor do I now. I would urge strict enforcement against any Apirate≡ operations that might try to continue in the future.

I do not support the SBE idea of limiting the bandwidth for LPFM stations. To do so would negatively impact the loudness and/or frequency response of such stations. Requiring a tight emission mask (bandpass filter) on the output of a LPFM transmitter is another matter and may be needed to be designed into LPFM transmitters, should data available to the Commission demonstrate this need. SBE=s contention that LPFM operators might remove such filters defies logic. Why would someone remove such a filter which gives them a clean signal, as SBE contends? Nobody ,intentionally, wants to transmit a signal that will cause interference and bring the FCC down on them. I do agree with SBE that LPFM transmitters must be either type-accepted or meet type-certification rules to ensure that such transmitters meet frequency stability and out of band emission limits in the rules. The SBE idea that a LPFM station would try to fool FCC inspectors by switching in and out a linear amplifier hidden in the attic is laughable. Even the most primitive field strength meters available to the Commission would reveal any such attempt. I believe LPFM operators should face the same stiff penalties applicable to full-power FM stations for violations of rules and especially for intentionally trying to mislead or provide false information to Commission officials. I believe it might be a good idea for the Commission to prepare a booklet on proper operation of LPFM stations that also would detail the seriousness of violations including lack of candor when dealing with the Commission and such booklet should accompany any new license issued. I anticipate the formation of a Low Power FM broadcasters association comprised of LPFM station owners, once the service is created. Indeed, such an association could take on the job of printing and distributing such booklets to all member stations.

The other methods of broadcasting suggested by SBE, instead of LPFM, are not workable and have been already cast aside by the Commission in their NPRM. SBE states in VII - Summary, AThe SBE does not wish to see technically naive potential LPFM licensees get trapped

in technical issues that sometimes challenge the best financed existing licensees.≡ I believe the SBE can and should take the lead in extending a hand of friendship and cooperation to these new broadcasters in an effort to educate them on the very technical issues discussed. SBE can take the lead and welcome LPFM stations into the fold. SBE with its 5,000+ members is in a unique position to help LPFM stations operate properly and to help them with any technical problems that might crop up. Remember, we all started somewhere and got help along the way.

6. **Reply to Comments of Others in This Proceeding**

The remainder of the bulk of the comments filed in this proceeding fall into two categories which include Afor≡ or Aagainst≡ the proposed creation of a LPFM service. Many radio stations, station groups (such as Cox Radio Inc.) and State Broadcasting Association=s comments merely parrot those of NAB, similar to those filed previously. Numerous comments were filed from Apirate radio≡ interests which would like to see a very low power level service created, on the level with which they operate their illegal pirate stations. Likewise, most advocates of a non-commercial service only come from the illegal Apirate radio≡ background, including Stephen Dunnifer, represented by the Committee on Democratic Communications of the National Lawyers Guild. Another group comprised mainly of Apirate radio≡ operators is the Amherst Alliance and suffer from the same credibility problems. These Apirate radio≡ operators have shown a blatant disregard for Commission rules and regulations and must not be allowed to steer the debate, based on their record. Many commenters in this proceeding lack any form of broadcast experience and, in my opinion, thus lack the basis for proposing sound policy and ,therefore, their opinions should carry less weight.

6. **In Conclusion**

One must remember that LPFM stations do not cause interference....only cheap, poorly designed receivers cause the interference. It=s time that the FCC moved in the direction of making the receiver manufacturers include **adequate filters** in ALL their receivers so that listeners will

not have any interference. Indeed, some of the receiver studies put forth in this proceeding showed that some of the low end receivers in the marketplace today are incapable of receiving a clear signal based on the existing interference protections. We must not allow these poorly designed receivers, with inadequate filters, dictate the future of LPFM, which has so much to offer.

The Commission must reject any skewed data filed in this proceeding, relying upon its own receiver tests and proceed as quickly as possible to create the Low Power FM broadcast service, which has already undergone too many delays. It has clearly been demonstrated in this proceeding that a LPFM service can be created, by eliminating the second and third adjacent channel and I.F. restrictions, without causing interference to existing stations and without impairing the development of digital broadcasting in America.

Due to the small number of LPFM stations that could be created using the strict mileage separations tables proposed in MM Docket 99-25, the Commission should allow filing of Ashort-form≡ applications for stations that are able to meet those mileage separations but also allow filing of a Astandard form≡ LPFM application for those stations that can be created by using a directional antenna to protect a station that would otherwise receiver interference and thus preclude construction of the proposed LPFM station. By using the desired/undesired (D/U) signal ratio method of processing for these applications, many more LPFM stations will be able to be created and the full potential of LPFM can thus be realized.

The Commission should strive to complete this proceeding with issuance of a Report & Order and scheduling a LPFM application filing window, using a first-come first-served system, before the end of 1999.

Respectfully submitted,

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